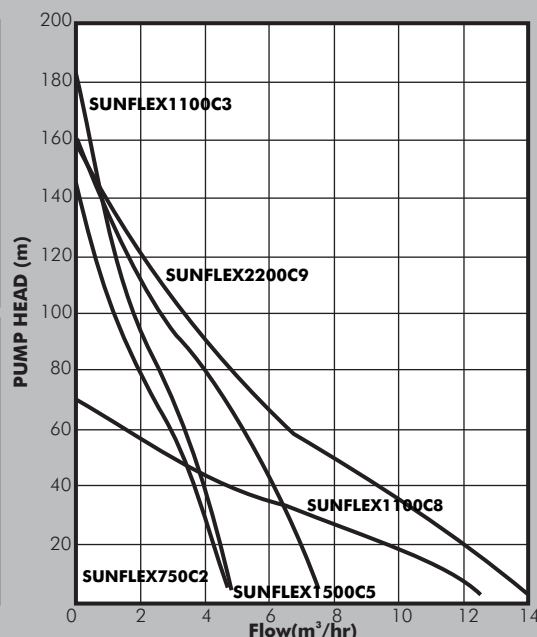
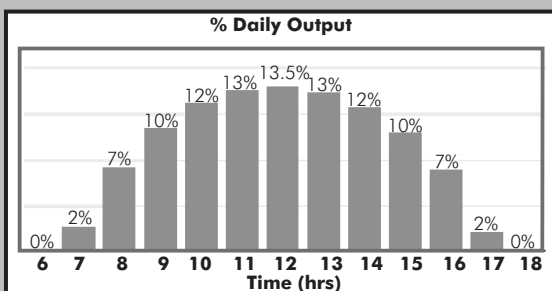
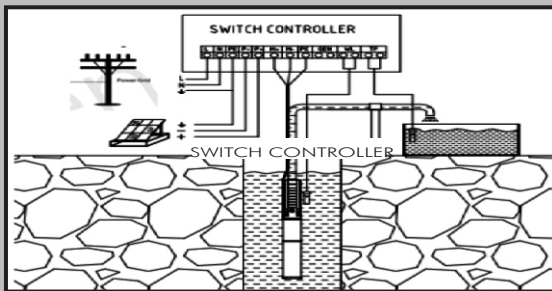




# SUNFLEX

## Hybrid AC/DC Solar Pump



### PUMP

Dayliff Sunflex is a multistage centrifugal submersible pump designed for water supply from boreholes and wells. A particular feature is hybrid capability with the option of running the pump on DC solar or AC mains supply or generator power with an external intelligent MPPT controller incorporating a frequency converter automatically configuring to the connected input power source. Other features include:-

- Pump construction is of hard-wearing stainless steel throughout including impellers and stages with water lubricated bearings.
- External motor controller incorporating MPPT capability for DC power input and Power Factor Correction for AC power input to maximise power input efficiency with DC power automatically prioritized.
- Wide voltage range and flexibility for both AC and DC power sources.
- Built-in dry running protection.
- Soft start operation to extend motor and pump life.
- Motor protection including overload/underload and overvoltage/undervoltage sensing.

Dayliff Sunflex is a cost-effective and reliable solution for hybrid water supply where both solar and mains power supplies are available. The pump incorporates a number of innovative technology features to optimize system efficiency and minimize operating costs and provides unbeatable flexibility for all borehole applications.

### MOTOR

The pump is coupled to a canned type water filled brushless permanent magnet variable speed motor that can be powered either by AC or DC power supply. The motor is provided with an external control module which uses MPPT technology to continuously optimize DC input efficiency and provides protection against over and under voltage and electrical and mechanical overload.

For optimal performance it is recommended to size the PV solar module array with a nominal output about 30% greater than the specified motor size and ensure that the input voltage is between the specified limits.

### EXTERNAL PUMP CONTROLLER

An external controller is available to enhance pump functionality which primarily provides for power source selection of either DC only, AC only or Auto which prioritizes the use of DC solar over mains/generator AC power and switches to AC when DC solar power is insufficient or unavailable. It also provides for on/off switching, digital VAC and VDC values, connection for a high-level control switch with 'Full' indication, 'Low' warning for low borehole water level and system Error warning. Other added Functions and features of the external controller:

- Protection against low and high voltage, over current, over temperature, high and low water level (15min recovery) and over load
- Displays voltage, current, power, rotation speed, error code, running time

**Enclosure Class:** IP68

**Insulation Class:** F

**Max DC Input Voltage:** 430VDC

**Speed Range:** 500–4,500rpm

### PUMP OUTPUTS

Performance curves are given at standard test conditions of 1000W/m<sup>2</sup> solar irradiance and 25°C temperature. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping multiply the indicated output at the duty point by the daily irradiation given in the graph. For indicative purposes, factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the tropics.

### OPERATING CONDITIONS

**Pumped Liquid:** Thin, clean, non-aggressive liquids without fibres or particles with a sediment concentration not exceeding 50gms/m<sup>3</sup>

**Max. Liquid Temperature:** 40°C

**Max Immersion Depth:** 100m

**Installation:** Pump should be installed vertically

### PUMP DATA

Model	Power (kW)	Current (A)	Input AC Voltage	Input DC Voltage	Max Input VOC	Panels		Outlet DN (")	Dimensions (mm)	Weight (kg)
						No.	Total Watt		H	
SUNFLEX 750C2	0.75	7.4	90-260	80-380	430	6x200W	1200W	1.25	1250	28
SUNFLEX 1100C3	1.1	6.6				8x200W	1600W		1360	30
SUNFLEX 1100C8								1.5		1100
SUNFLEX 1500C5	1.5	11				10x200W	2000W	2	760	
SUNFLEX 2200C9	2.2					16x200W	3200W			

